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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/823,797	04/14/2004	Takumi Mikawa	60188-835	4685

7590 04/20/2006  
McDERMOTT, WILL & EMERY  
600 13th Street, N.W.  
Washington, DC 20005-3096

EXAMINER

SOWARD, IDA M

ART UNIT	PAPER NUMBER
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2822

DATE MAILED: 04/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/823,797	<b>Applicant(s)</b> MIKAWA ET AL.	
	<b>Examiner</b> Ida M. Soward	<b>Art Unit</b> 2822	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 6-38 is/are pending in the application.
- 4a) Of the above claim(s) 16-38 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10 and 11 is/are allowed.
- 6) ☒ Claim(s) 6-9 and 12-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

This Office Action is in response to the Applicants' amendment filed February 2, 2006.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 6-9 and 12-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Celinska et al. (US 2004/0101977 A1).

In regard to claim 6, Celinska et al. teach a semiconductor device comprising: a first hydrogen barrier film 121; a capacitor device 130 formed on the first hydrogen barrier film 121; and a second hydrogen barrier film 132 formed to cover the capacitor device 130, wherein around the perimeter of the capacitor device 130, the first and second hydrogen barrier films 121 & 132 are connected to each other with an adhesion layer (not shown) interposed therebetween (Figure 1, pages 5-6, paragraphs [0042]-[0048]).

In regard to claim 7, Celinska et al. teach the adhesion layer (not shown) occluding hydrogen (page 6, paragraph [0047]).

In regard to claim 8, Celinska et al. teach the adhesion layer (not shown) containing a transition metal (page 6, paragraph [0047]).

In regard to claim 9, Celinska et al. teach the adhesion layer (not shown) containing Ti (page 6, paragraph [0047]).

In regard to claim 12, Celinska et al. teach the first and second hydrogen barrier films 121 & 132 adhere to each other so that no silicon oxide film is interposed between the first and second hydrogen barrier films 121 & 132 (Figure 1, pages 5-6, paragraphs [0042]-[0048]).

In regard to claim 13, Celinska et al. teach the first and second hydrogen barrier films 121 & 132 are films made of the same material (Figure 1, pages 5-6, paragraphs [0042]-[0048]). The correct U.S. Patent No. on page 6, paragraph [0047] is 6,225,656.

In regard to claim 14, Celinska et al. teach the capacitor device 130 comprises a lower electrode 124 formed above the first hydrogen barrier film 121, a capacitor insulating film 126 formed on the lower electrode 124, and an upper electrode 128 formed on the capacitor insulating film 126, and the capacitor insulating film is made of a ferroelectric film (Figure 1, pages 5-6, paragraphs [0042]-[0048]).

In regard to claim 15, Celinska et al. teach the capacitor insulating film 126 made of  $\text{SrBi}_2(\text{Ta}_x\text{Nb}_{1-x})_2\text{O}_9$  (where  $x$  satisfies  $0 \leq x \leq 1$  in the above chemical formula) (page 7, paragraph [0055]).

***Allowable Subject Matter***

Claims 10-11 are allowed.

***Response to Arguments***

Applicant's arguments with respect to claims 6-9 and 12-15 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of the art with respect to capacitor semiconductor devices:

Kanaya et al. (US 6,982,444 B2)

Lee et al. (US 6,509,601 B1)

Lee et al. (US 6,664,578 B2)

Yoon (US 6,900,095 B2).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ida M. Soward whose telephone number is 571-272-1845. The examiner can normally be reached on Monday - Thursday 6:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zandra V. Smith can be reached on 571-272-2429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2822

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

IMS

April 14, 2006

*John M. Howard*  
*AU 2822*